

6. Convert the following radicals to mixed radicals in simplest form. There are two which cannot be converted. Identify them and explain why they cannot be converted to mixed radicals.

a)  $\sqrt{96}$

b)  $\sqrt{242}$

c)  $-\frac{2}{3}\sqrt{180}$

d)  $\frac{1}{8}\sqrt{320}$

e)  $\sqrt{245}$

f)  $4\sqrt{338}$

g)  $\sqrt{1250}$

h)  $\sqrt{66}$

i)  $-\frac{5}{6}\sqrt{304}$

j)  $\sqrt{980}$

k)  $4\sqrt{272}$

l)  $-3\sqrt{288}$

m)  $2\sqrt{369}$

n)  $\sqrt{364}$

o)  $\frac{2}{5}\sqrt{450}$

p)  $\frac{7}{11}\sqrt{341}$

7. Convert the following radicals to mixed radicals where the radicand is a whole number.

a)  $\sqrt{\frac{2}{9}}$

b)  $\sqrt{\frac{5}{4}}$

c)  $\sqrt{\frac{18}{25}}$

d)  $7\sqrt{\frac{20}{49}}$

8. Convert the following to entire radical form.

a)  $2\sqrt{6}$

b)  $3\sqrt{7}$

c)  $5\sqrt{15}$

d)  $12\sqrt{2}$

e)  $3\sqrt{25}$

f)  $-8\sqrt{3}$

g)  $9\sqrt{10}$

h)  $-4\sqrt{5}$

9. Convert the following to entire radical form.

a)  $\frac{1}{3}\sqrt{27}$

b) 15

c)  $\frac{3}{2}\sqrt{8}$

d)  $3^2\sqrt{21}$

**Do not use a calculator to answer question #10 or #11.**

10. Given that  $\sqrt{6}$  is approximately equal to 2.45 and  $\sqrt{60}$  is approximately equal to 7.75 find the approximate square roots of

a)  $\sqrt{600}$

b)  $\sqrt{6000}$

c)  $\sqrt{600\,000}$

d)  $\sqrt{0.06}$

e)  $\sqrt{0.6}$

f)  $\sqrt{24}$

g)  $\sqrt{540}$

h)  $\sqrt{\frac{6}{25}}$

11. Arrange the following radicals in order from greatest to least.

$$3\sqrt{7}, \quad 5\sqrt{3}, \quad \sqrt{60}, \quad 2\sqrt{11}, \quad \frac{1}{2}\sqrt{200}$$